

Ecology Notes
Grade 7 Science
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I. Characteristics of Living Things

All living things are:

A. Made of cells

B. Obtain and use energy

1. plants - energy from the sun
2. animals- energy from food
3. To maintain life, a balance between energy producing processes and energy using processes must be maintained.
4. disruption in balance = problems surviving

C. Grow and develop

- a. Energy is required.
- b. Certain conditions must be exist.

1. shelter
2. correct temperature
3. food

c. Living things grow and develop at different rates.

1. Plants and trees are constantly developing.
2. Humans stop growing at a certain age.

D. Respond to their environment

1. stimulus - a change in the environment
leaves crunching caused by footsteps
2. response - a rabbit hears the sound and flees

E. Reproduce

1. There must be a place to mate, nest and care for young.
2. Reproduction is needed for the survival of a species.

F. Adapt to their environment

a. Adaptation - a characteristic that helps an organism meet the needs that living things have

b. Goose bumps

1. When you are cold, tiny muscles in your skin contract, causing tiny bulges
2. The hairs on your skin stand on end, trapping air
3. The air is heated by your body.
4. Goose bumps helps animals with fur. The more fur, the less cold that reaches the body.

II. Needs of Living Things

A. Energy

B. Food

C. Water

- a. dissolves and transports substances in an organism
- b. Blood is mostly water. It transports nutrients around the body.

D. Temperature

1. Outside temperature
2. Internal temperature
 - a. correct body temperature is needed to carry out metabolism
 - b. **homeostasis** - the ability of an organisms to keep conditions inside its boy the same
 - c. **Endothermic** - refers to animals that use food energy to maintain a constant body temperature
 1. birds, dogs, humans
 - d. **Ectothermic** - refers to animals that have body temperatures that change depending on the

temperature of the environment - depend on
heat energy from the sun
frogs, fish, turtles, marine iguanas

E. Gas Exchange

Land animals gets oxygen from the air.
Water organisms get oxygen from the water.
Carbon dioxide is needed by plants.

F. Living Space

Certain organism require certain conditions for their living space and often have to compete with other organisms for it.